



# Evolution 401

## Installation & User Guide

**All spares available from**



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*The manufacturer reserves the right to introduce changes in order to achieve the improvements it deems necessary without prior notice.*

**Failure to follow the instructions provided in the attached documentation may jeopardize safety of the appliance and immediately cancel the warranty.**



**The warnings contained in this manual provide important information regarding safety during the various installation, operation and maintenance stages.**

- Carefully store all documentation near the appliance; give it to the technicians and operators who will be using it. **It is the operator's duty to read, understand and learn this manual before starting any operation on the machine.** The appliance is intended for the professional washing of dishes for dining facilities. Therefore, installation, use and maintenance must in all cases be performed by trained personnel who follow the manufacturer's instructions. Do not leave within the reach of children. The choice of materials, construction in conformity with EC safety directives and complete testing ensure the quality of this machine.

**The manufacturer declines all responsibility for damage to property or injuries to persons deriving from failure to comply with the instructions given or from improper use of the machine.**

## Chap 2 INSTALLATION

Proper installation is essential in order for the machine to operate well. Some of the data needed for machine installation can be found on the data plate placed on the right side of the machine and in duplicate on the cover of this manual.



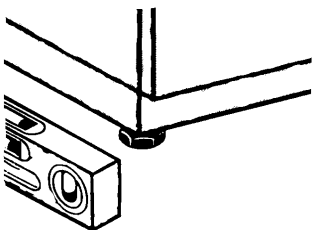
**Only qualified, authorised technicians must install the machine.**

### 2.1 Unpacking

Check that the packing is in perfect condition and write down any damage found on the delivery note. After you have removed the packing, **make sure the appliance is intact.** If the machine is damaged, immediately notify the dealer by fax or by registered letter with advice of receipt and the haulage contractor that transported it. If the damage is such as to jeopardize machine safety, do not install and/or use it until a qualified technician services it.



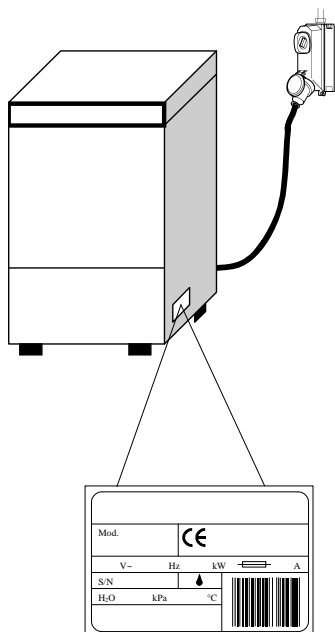
**The packing components (plastic bags, foam polystyrene, nails, etc. ...) must not be left within the reach of children and pets as they may be dangerous.**



### 2.2 Positioning

- Check that there are no objects and materials in the installation area that can be damaged by steam that may exit the machine during operation, or at least that they are sufficiently protected.
- In order to ensure stability, install and balance the machine on its four feet.
- Different installation solutions must be agreed upon and approved by the manufacturer.

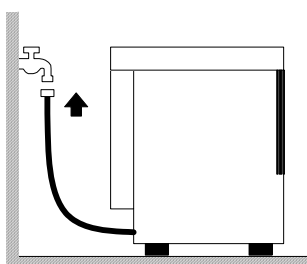
## 2.3 Electrical connection



- **There must be an omnipolar type of main switch that disconnects all contacts, including the neutral, with a distance of at least 3 mm between the open contacts and with safety circuit breaker tripping or connected with fuses**, to be sized or calibrated in conformity with the power indicated on the machine's data plate.
- The main switch must be located on the electric line close to the place of installation, and it must serve only one appliance at a time.
- Electric network voltage and frequency must coincide with those given on the data plate.
- **There must be an effective earthing system in conformity with the prevention standards in force for operator and equipment safety.**
- The power supply cable (type H07RN-F only) must not be pulled or crushed during normal operation or routine maintenance.
- The unipotential terminal fastened to the body must be connected to a unipotential cable having a section suited to the application.
- **Respect the polarities indicated in the wiring diagram.**
- Consult that attached wiring diagram for additional information.



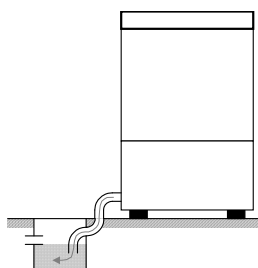
**Do not use adaptors, multiple socket outlets or cables of inadequate type and section or with extension connections not compliant with plant engineering standards in force.**



## 2.4 Plumbing connection

The appliance is to be connected to the water network with a hose. There must be a slide on-off, ball or gate valve **able to quickly and completely turn off the water if necessary** between the water network and the appliance's solenoid valve. The on-off valve must be on the line near and just before the appliance.

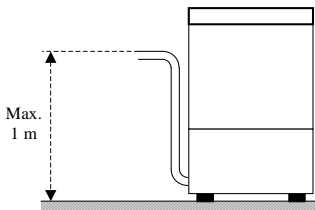
- If the system is new or nearly so, let the water run a long time before making the connection.
- The water supply, temperature and pressure **must be compatible** with what is indicated on the machine's technical data plate.
- If the water's hardness is greater than 14 F (8 dH), we recommend you use the machine with internal water softener (available on request). If the water's hardness is greater than 35 F (19.5 dH), we recommend you install an external water softener upline of the solenoid valve.



Free drain

## 2.5 Connection to the drain line

- **The drain line must be made up of a free water trap** of a size proportionate to the delivery of the drain pipe supplied with the machine. The pipe must be able to reach the water trap **without being pulled, squeezed, bent, crushed, pressed or forced in any way.**
- The tank empties by gravity, so the drain must be at a **lower level than the base of the machine.**



With discharge pump (available on request)

- If the drain is not at a lower level than the base of the machine, you can use the version equipped with a discharge pump (available on request).
- In this case the maximum drain height is 1 m.
- Always check that the drain works properly and that it is not clogged.
- All other solutions must be previously agreed upon and approved by the manufacturer.

## 2.6 Rinse aid and detergent

- Rinse aid is dispensed by the hydraulic dispenser installed standard on the machine.
- Dispensing of detergent is manual, even if installation of an automatic dispenser is always recommended.
- Dispensing is established based on water hardness by the installation technician, who will also calibrate the dispensers.
- The level of liquids in the container must be high enough that it can be drawn. It must never empty completely, or be topped off with corrosive or impure products.

**NEVER use CHLORINE or HYPOCHLORITE based detergents.**

## Chap 3 RISKS AND IMPORTANT WARNINGS

- This appliance is to be used only for the use for which it was expressly designed. All other uses are to be considered unfit and therefore dangerous.
- **The specialised personnel who will install the machine are obliged to appropriately instruct the user on the appliance's operation and any safety measures that are to be complied with, also by providing practical demonstrations.**
- Any type of service done on the machine, also in case of failure, must be performed only by the manufacturer or by an authorised service centre and by qualified personnel, **using only original spare parts.**
- Always disconnect or separate the machine from the electric and water networks before performing maintenance, repairs or cleaning.
- Untrained personnel must **NOT** use the machine.
- The machine must **NOT** remain powered on when it is not in use.
- **NEVER** open the machine door quickly if it has not finished the cycle.
- **NEVER** use the machine without the factory-installed safety attachments.
- **NEVER** use the machine for washing object of a type, shape, size or material not guaranteed for machine washing or not perfectly intact.
- **NEVER** use the appliance or its parts as a ladder or support for people, things or animals.
- **NEVER** overload the open door of front-loading machines, which are sized to support only the rack loaded with kitchenware.
- **NEVER** immerse bare hands in the washing solutions.
- **NEVER** turn the machine over after installation.

### THE FOLLOWING IS ALSO IMPORTANT:

- Never start a wash programme without the overflow in the tub, where foreseen.
- Before you drain the tank, make sure you shut off the machine.
- Never place magnetic objects near the machine, it may start even when the door is open.
- Do not use the upper part of the machine as a support surface.
- The machine may not be used by persons who are unauthorized or who have not been properly trained.
- The installation technician is required to check for proper earthing.
- When testing is complete, the installation technician must issue a written statement concerning correct installation and testing in accordance with all standards and acceptable working practices.

### 3.1 Normal service conditions

**Ambient Temperature** : 40°Cmax /4°Cmin ( average 30°C)

**Altitude** : until 2000 metrical

**Relative humidity** : max 30% at 40°C / max 90% at 20°C

**Transport and Storage** : between 10°C and 55°C with peak until 70°C ( max 24 hrs )























Chap 4 MACHINE USE

To simplify the description of the various functions, the layout of the control panel is shown below, with the name of each key or indicator light and the corresponding numbers. The figures to which reference is made are included and the beginning of the manual. In the description of the operation of the machine, reference is always made to these numbers or names.

4.1 Key and symbols

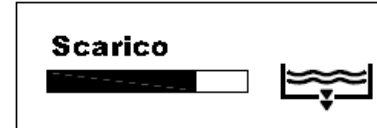
Fig. 1 shows:

<b>1</b>	<b>ON/OFF BUTTON</b>	<b>3</b>	<b>START BUTTON</b>
<b>2</b>	<b>SELECT PROGRAMME BUTTON</b>	<b>4</b>	<b>INFORMATION DISPLAY</b>

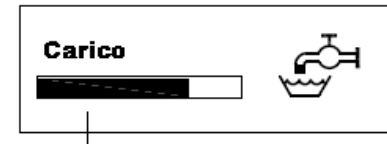
	Dishwasher in stand by		No detergent
	Dishwasher loading		No rinse aid
	Short wash programme		No salt
	Medium wash programme		Regeneration system on
	Long wash programme		Self-cleaning programme and drains
	Glass wash programme		Self-diagnosis on
	Intensive wash programme		Boiler rinse temperature.
	Cutlery wash programme		Washing tub temperature
	Economy wash programme		Safety system on
	Sanitising wash programme		Wash programme with total change of washing water
	Fast wash programme		Correct wash temperature If flashing: heating on

## 4.2 Switching the dishwasher on

- Turn on the main power switch and open the external water tap.
- Check the presence of the overflow, where foreseen.
- Press **ON/OFF (1)**.
- The machine runs a drain cycle even if the tub is empty.



- The **START (3)** button flashes green.
- The machine then starts to load water, the timer bar indicates the residual loading time



- When the **START (3)** button is fixed and green, it indicates that the machine is ready for use, the **DISPLAY (4)** shows the set programme, **OK** indicates that the washing temperature is correct (*Fig. 2*).

## 4.3 Washing cycle

With reference to *Fig.3*, for correct operation of the machine, it is advisable to follow these rules:

- Use a suitable rack, filling it without overloading it and without placing the dishes one on top of the other.
- Always clean off the dishes beforehand, and do not load dishes with dry or solid residue on them.
- Place empty containers upside-down on the rack. Put the plates and similar kitchenware into the special inclined rack, with the internal surface facing upwards. Put mixed silverware into the special basket with the handles facing downwards.
- Wash the dishes immediately after use, in order to prevent any residuals from hardening and sticking on them.
- Load the rack into the machine and close the door.
- To avoid breakage, use only dishes that are intact and guaranteed for machine washing.
- Do not place silver and stainless steel cutlery in the same basket, since this would cause the silver to tarnish and the steel to corrode.

## 4.4 Cycle selection and start-up

- Select the wash cycle suited to the dishes to be washed by pressing **SELECT PROGRAMMES (2)**.
- To start the programme just press **START (3)**: during the programme the timer bar will progressively indicate the residual time (*Fig.5*).
- When the cycle has finished the display will show **End**.
- For rapid drying, take the rack out of the machine as soon as the cycle finishes.
- To stop a wash cycle early, press **START (3)**.

## 4.5 Selecting special programmes








This dishwasher has special wash programmes.

You can choose the most suitable programme and memorise it for future use.

- Using the **SELECT PROGRAMMES (2)** button, select the memorised special programme.
- With the door open, select the required programme by pressing **START (3)**.
- The chosen special programme will remain memorised and can be chosen simply by pressing **SELECT PROGRAMMES (2)**.

**Warning: the special programmes available depend on the dishwasher model.**

## 4.6 Description of special programmes

 <p>Intensive <b>Glasses</b> Refresh</p>	<p><b>GLASSES (PLATES) wash programme.</b> The Glasses programme is suited for washing glasses of any shape or type. This programme washes with a low rinse temperature and requires a long drying time.</p>
 <p>Cutlery <b>ATC</b> Glasses</p>	<p><b>ATC wash programme.</b> The Intensive programme is suited for washing very dirty, even encrusted dishes that have been left for some time. The programme includes 2 washes and 2 rinses.</p>
 <p>Green <b>Steel</b> ATC</p>	<p><b>STEEL wash programme.</b> The cutlery wash programme is suited for washing forks, spoons, knives and all sorts of other cutlery. This wash programme is longer than the others.</p>
 <p>Sanitizer <b>Green</b> Cutlery</p>	<p><b>GREEN Wash programme.</b> The ECO wash programme reduces energy consumption by washing at lower temperatures and with reduced water consumption than normal wash programmes, a good washing result is achieved by a prolonged mechanical washing action.</p>
 <p>refresh <b>Fast</b> Sanitizer</p>	<p><b>FAST wash programme.</b> The Fast wash programme is recommended when you need good results in a short time. The programme exploits the good mechanical action and high washing temperatures.</p>
 <p>Glasses <b>New</b> Fast</p>	<p><b>NEW wash programme.</b> The NEW programme is recommended when you wish to wash with a total change of water in the washing tub, so for consecutive washes of particularly greasy and dirty dishes. The full change of the water in the tub requires a longer wash cycle.</p>
 <p>Fast <b>Sanitizer</b> Green</p>	<p><b>SANITISER wash programme.</b> The Sanitiser programme is recommended when the dishes to be washed also have to be sanitised. This programme controls the wash temperature and time calculating the constant A0. The programme ends when A0 is 30. The length is variable, but is generally around 20 minutes and the wash temperature reaches approximately 72 C°. If you need an A0 value other than 30 contact an authorised technician, who will modify the machine software for you.</p>



4.7 Automatic cycle start-up

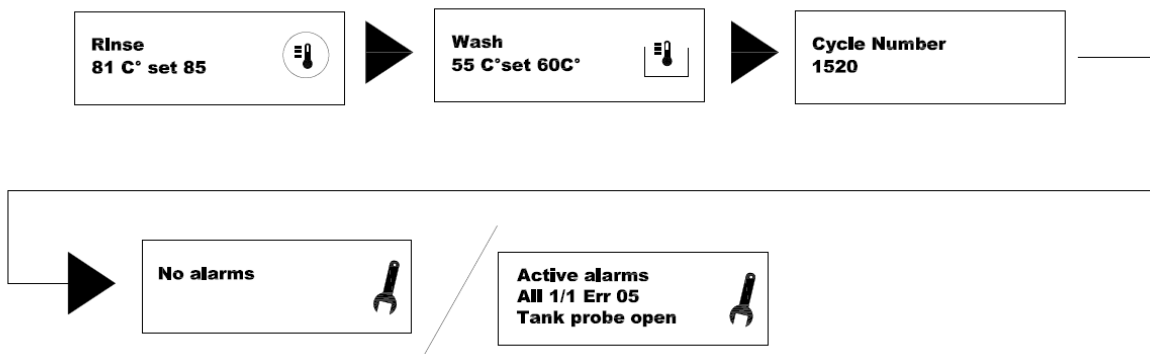
This function lets you start a cycle by simply closing the door without pressing any buttons. To enable the function, proceed as follows (Fig. 4):

- With the machine on and the door open press **START (3)** until the signal **A** appears on the display.
- To disable the function, press **START (3)** again for a few seconds with the door open.



4.8 Displaying information

- If you press **SELECT PROGRAMMES (2)** for a few seconds you will access the information menu.
- Press **SELECT PROGRAMMES (2)** repeatedly to view, in sequence: Tub temperature, boiler temperature, total number of machine cycles, any alarms.



To exit the menu press **SELECT PROGRAMME (2)** for a few seconds.

4.9 Turning the dishwasher off

Press **ON/OFF (1)** on the **DISPLAY (4)** to view the dishwasher symbol in stand by.



4.10 Removal of integral filter

1. Turn off the machine.
2. Place the wash and rinse arms at a right angle to the edge of the door (Fig. 7).
3. Raise each semi-filter, grasping it by the handle.

#### 4.11 Emptying the dishwasher

- With the machine on press **SELECT PROGRAMMES (2)** to select the programme **Drain**.
- Press **START (3)**, to start the drain and self-clean programme.
- Once the tub has drained, the stand by symbol will appear on the display.

#### 4.12 Resin regeneration

In machines with an incorporated water softener the “**REGENERATION SYSTEM ON**” symbol indicates that the machine is running a resin regeneration cycle and that the current wash programme could be longer.



##### **N.B. Do not switch off the machine if a regeneration cycle is underway**

In machines fitted with water softener, when the warning ‘**NO SALT**’ appears you should add salt to the relative container; proceed as follows:

- Remove the basket from the machine.
- Remove the integral filter (*Fig. 7*).
- Unscrew the cap on the salt container (*Fig. 8*).
- Pour approx. 700g of regeneration salt (1or 2mm grain size kitchen salt with no additives) into the container using the funnel supplied.
- Close the container firmly.
- After a few minutes the ‘**NO SALT**’ warning will disappear.

##### 4.12.1 Machine with external water softener

In machines equipped with an external water softener, after a certain number of cycles, the display will show the message ‘**SERVICE**’. This indicates that the resins of the external softener must be regenerated.

This signal remains even when the machine is off. To eliminate it, press and hold, *for at least five seconds*, with the machine off and the door open, the **START** key **(3)**.

#### 4.13 End of service

- At the end of the day always drain the machine as described in the “Machine draining” section.
- **Disconnect the power supply by means of the main switch and close the external water cock.**
- Perform routine maintenance and clean the machine as described in the “Maintenance” section.
- If possible, leave the door ajar to prevent the formation of unpleasant smells inside.

## Chap 5 MAINTENANCE



**Before performing any maintenance, drain all water, disconnect the electrical power supply, and close the external water cock.**

## 5.1 Cleaning and hygiene

To ensure machine hygiene, **periodically perform the maintenance tasks** listed below. Also carry out a periodical sanitising treatment with suitable non-corrosive products available on the market.

## 5.2 Maintenance of filtering group

Carry out this procedure at the end of the day when you see residual dirt on the filters:

1. Remove and clean the baskets.
2. Remove the tub as per the instructions in the paragraph on draining the machine.
3. Carefully clean the integral filter.
4. Thoroughly clean the tank and machine with non-abrasive disinfectant products.
5. Remove the standard filter by pulling it upwards as shown and clean it carefully.
6. Do not use abrasive products or objects for cleaning the steel tank. Instead use a slightly soapy damp cloth.
7. Do not use pressurised jets of water because they could damage the electric system.
8. When finished with the described tasks, carefully reposition each part.

## 5.3 Cleaning of wash arms

The wash and rinse arms can easily be removed to allow periodic cleaning of the nozzles so as to prevent possible clogging and/or deposits.

Proceed as follows (*Fig. 9*):

- Unscrew ring nut **R** and release the arms.
- Wash all parts with running water. Clean the nozzles carefully, using a toothpick or small tools if necessary.
- Clean the arm rotation pins in the machine and the washing and rinsing water outlet area.
- Put the arms back in place and check that they rotate freely.

## Chap 6 SELF-DIAGNOSIS

The machine is equipped with a self-diagnosis system that can detect and signal a series of malfunctions.

<b>Anomaly</b>	<b>Description and possible remedies</b>
<b>E01</b>	<b>No rinse.</b> The warning comes on at the end of the cycle, if the water level in the tub is not correctly restored. Check that the hydraulic connections are correct and that the water tap is open. If the problem persists contact a technical assistance centre.
<b>E02</b>	<b>Water drainage anomaly.</b> Water does not drain or drains abnormally. Check to see if the overflow has been removed. Check the drain tube is not bent or crushed, and that none of the filters are clogged. Run another drain cycle.
<b>E03</b>	<b>Boiler temperature reset anomaly.</b> The boiler temperature reset has not occurred within the time limits set forth in the wash cycle. Turn the machine off and then back on and run another cycle.
<b>E04</b>	<b>Water filling anomaly.</b> Check whether the plumbing connections are correct, and that the water supply cock is open. Check the presence of the overflow.
<b>E05</b>	<b>Tub thermometer anomaly. (Probe open)</b> The machine does not measure the temperature in the tub. Turn the machine off and then back on.
<b>E06</b>	<b>Tub thermometer anomaly. (Probe shorted out)</b> Interrupt the programme in progress, and shut off the dishwasher. Turn it back on after a few minutes and start the cycle again.
<b>E07</b>	<b>Boiler thermometer anomaly. (Probe open)</b> The machine does not measure the temperature in the boiler. Turn the machine off and then back on.
<b>E08</b>	<b>Boiler thermometer anomaly. (Probe shorted out)</b> Interrupt the programme in progress, and shut off the dishwasher. Turn it back on and start the programme again.
<b>E09</b>	<b>Boiler loading time out:</b> boiler not filled. Impossible to carry out rinse cycle. Check that the water tap is open. Run a new complete cycle.
<b>ESF</b>	<b>Electro-mechanical safety device:</b> the boiler or tub safety thermostats have cut in, or the tub safety pressure switch has been triggered. Contact a technical assistance centre.
<b>ESL</b>	<b>Incorrect tub level:</b> the tub pressure switch has detected too much or too little water in the tub. Contact a technical assistance centre.
<b>E22</b>	<b>Tub heating time out:</b> washing water heating error, switch the dishwasher off and then on again.
<b>CAUTION! Turning the machine off and then back on resets the notification. If, after following the instructions provided, the problem reoccurs, contact an authorized service centre.</b>	



**The following settings should only be configured by a qualified technician.**

During installation or afterwards, a number of functions can be set in the dishwasher:

- Press buttons **3** and **4** together for a few seconds, with the machine off and the door open; PASSWORD 00 will appear on the display.
- Press button **3** or **4** repeatedly until number “**12**” appears on the display.
- Press button **1** to enter the menu, then use **1** again to scroll through the items.
- Activate, deactivate or adjust the function using buttons **3** or **4**.

“**Language**”: Choosing the display language.

“**Termostop**”: Enables termostop. This function guarantees the ideal rinse temperature.

“**Energy Saving**”: Enables Energy saving. This function allows energy-savings to be made when the appliance is switched on but not in use.

“**Pre-heating**”: Enables or disables the Preheating function (fast loading).

“**Detergent pump**”: Enables the detergent pump.

“**Rinse aid pump**”: Enables the rinse aid pump.

“**Dosage Detergent g/l**”: Sets the concentration of detergent, grams/litre.

“**Dosage Rinse aid adjustment g/l**”: Sets the concentration of rinse aid, grams/litre.

“**Drain pump**”: Enables the electric drain pump.

“**Water hardness**”: Sets the water hardness according to the following table (Only for versions with incorporated water softener):

Measured hardness		Water hardness
<i>DF</i>	<i>DH</i>	<i>n°</i>
0 ÷ 20	0 ÷ 11	1
21 ÷ 30	12 ÷ 16	2
31 ÷ 40	17 ÷ 22	3
41 ÷ 60	23 ÷ 33	4
61 ÷ 70	34 ÷ 42	5

“**Cycle for regeneration alarm with external softener**”: Sets the number of regeneration cycles for an external water softener.

“**Cycle counter**”: Resets cycle counter.

- To exit the menu and save the settings, press button **1** for a few seconds

## Chap 7 DISPOSAL

There are no materials on our machines that require special disposal procedures.

## 7.1 Information for users

*in accordance with art. 13 of Legislative Decree dated 25 July 2005, no. 151 "Implementation of Directives 2002/95/EC, 2002/96/EC and 2003/108/EC, concerning reduction of use of hazardous substances in electrical and electronic equipment, and disposal of waste"*



- The symbol showing a barred-out dustbin on the appliance or its packaging indicates that, at the end of its life cycle, the product must be collected separately from other waste.
- Separate waste collection of this appliance at the end of its life cycle is organized and managed by the manufacturer. The user who wishes to dispose of this appliance should therefore contact the manufacturer and comply with the procedures established to allow separate collection of the appliance at the end of its life cycle.
- Proper separate waste collection for subsequent recycling, handling and ecologically friendly disposal helps to prevent possible negative effects on the environment and on health and favours the reuse or recycling of the materials that the appliance is made of.
- Abusive disposal of the product by the owner may result in the application of penalties as set forth by current law.



# INSTRUCTION MANUAL FOR DISHWASHERS